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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF WILHELM LOHREY ET AL.

FOR: METHOD AND APPARATUS FOR THE CONTINUOUS PRODUCTION OF
INFUSION BAGS AS WELL AS INFUSION BAG

AMENDMENT

Commissioner of Patents and Trademarks
Washington, DC 20231

Dear Sir:

Before examining the present application, please amend as follows:

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IN THE SPECIFICATION:

Please delete page 6.

Please insert the following section title before the first paragraph on the first page:

--FIELD OF THE INVENTION--

Please amend the first paragraph on page 1 in clean form, as follows:

The invention relates to a method for the continuous production of infusion bags, in particular for tea. The invention also relates to an apparatus for the continuous production of infusion bags, in particular for tea.

Please insert the following section title before the second paragraph on the first page:

--DESCRIPTION OF THE RELATED ART--

Please insert the following section title before the first paragraph on the second page:

--SUMMARY OF THE INVENTION—

Please amend the first and second paragraphs on page 2 in clean form, as follows:

The invention provides a simple method and a constructively simple apparatus for the continuous production of infusion bags, working reliably at a high speed. The infusion bag according to the invention shall have a simple design and a low price.

More specifically, a method according to the invention is characterized in that the chambers are formed by a transverse seam, which simultaneously comprises the rear seam of the one infusion bag and the front seam of the succeeding infusion bag and a perforation interposed between both seams, at which the infusion bags are separated in course of the process. Such a transverse seam can be best produced by ultrasound, since ultrasound simultaneously enables welding and perforating.

Please insert the following section title before the first paragraph on the fourth page:

--BRIEF DESCRIPTION OF THE DRAWINGS--

Please insert the following section title before the fifth paragraph on page four, that is, before the paragraph beginning, "The apparatus schematically * * *":

--DETAILED DESCRIPTION--

IN THE CLAIMS:

Please amend the following claims in "clean" format.

1. (Amended) Method for the continuous production of infusion bags for tea, the method comprising:

depositing a single substance quantities on a filter paper web;

forming a chamber tube;

forming individual chambers, which are closed on all sides and contain at least one substance quantity, respectively, and which are attached to a carrier material;

forming the chambers by a transverse seam, which simultaneously comprises a rear seam of a first infusion bag and a front seam of a succeeding infusion bag;

interposing a perforation between both seams; and

separating the first and the succeeding infusion bags.

2. (Amended) Method according to claim 1, further comprising producing the transverse seam by ultrasound.

3. (Amended) Method according to claim 1, further comprising punching two corners laterally of a central web during the forming of the chambers of transverse seam; and forming a V-shape in the front seam.

4. (Amended) Method according to claim 1, further comprising isolating the chambers of the chamber tube by extension at the perforation; and thereafter attaching the chamber to a carrier material web.

5. (Amended) Method according to claim 4, wherein the attaching is welding by means of ultrasound.

6. (Amended) Method according to claim 4, further comprising perforating the carrier material web before the attaching or simultaneously with the attaching.

7. (Amended) Method according to claim 1, further comprising simultaneously or successively attaching the isolated chambers of two chamber tubes to a carrier material web.

8. (Amended) Method according to claim 1, further comprising isolating by extension the chambers to be attached to a carrier material web.

9. (Amended) Method according to claim 1, wherein the forming of the chambers includes forming by ultrasound welding the chambers of at least two filter paper webs, which are placed in parallel to each other or superposed.

10. (Amended) Apparatus for the continuous production of infusion bags for tea, the apparatus comprising:

- a dosing device for substance quantities;

- a device for forming a tube, the tube is divided into chambers by transverse sealing; and

- a transverse sealing station having a sonotrode, that cooperates with a sealing roller in order to produce a double seam separated by a perforation, the sealing roller comprises recesses for the substance quantities contained in the chambers; and

- a second station in which the chambers are isolated by extension and attached to a carrier material web.

11. (Amended) Apparatus according to claim 10, wherein the second station includes a sonotrode and a sealing roller for welding the chambers to the carrier material web by ultrasound.

12. (Amended) Apparatus according to claim 10, further comprising a third station in which second chambers of a second chamber tube are welded to the carrier material web.

13. (Marked up/Amended) Apparatus according to claim 12, further comprising a separating station for isolating sections of the carrier material web, which are respectively connected to the chambers and the second chambers.

14. (Amended) Infusion bag for tea comprising at least one chamber containing a substance quantity of the substance quantity to be leached out and being produced by transverse sealing of a tube made of filter material, and a section of a carrier material web connected to the chamber, wherein a transverse seam of the carrier material web are welded to the chamber by ultrasound.

15. (Amended) Infusion bag according to claim 14, wherein the transverse seam is formed by a double seam comprising a front and rear seam having a perforation placed in between.

Please add the following new claim:

16. (Newly Added) Apparatus according to claim 10, further comprising a separating station for isolating sections of the carrier material web, which are respectively connected to the chambers.

IN THE ABSTRACT:

Please amend the Abstract in clean form as follows:

The invention relates to a method for the continuous production of infusion bags, in particular for tea, by depositing single substance quantities on a filter paper web and forming a tube as well as forming individual chambers, which are closed on all sides and at least contain one substance quantity, respectively, and which are attached to a carrier material. According to the invention, the chambers are formed by a transverse seam, which simultaneously includes the rear seam of the one infusion bag and the front seam of the succeeding infusion bag and a perforation interposed between both seams, at which the infusion bags are separated in course of the process.

REMARKS

Applicants request entry of the present amendments that conform the claims to U.S. practice. No new matter is being introduced by this Amendment as antecedent support is set forth in the original specification and in the original claims.

Prosecution on the merits is respectfully requested.

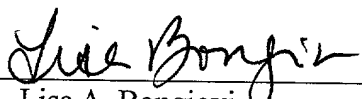
The Examiner is invited to contact Applicant's Attorneys at the below-listed telephone number regarding this Preliminary Amendment or otherwise regarding the present application.

If there are any charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Applicants' attorneys.

Respectfully submitted,

MANFRED HAUERS ET AL.

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MARKED UP VERSION TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Please amend the first paragraph on page 1 in marked up form, as follows:

The invention relates to a method for the continuous production of infusion bags, in particular for tea, ~~by depositing single substance quantities on a filter paper web and forming a tube as well as forming individual chambers, which are closed on all sides and at least contain one substance quantity, respectively, and which are attached to a carrier material.~~ The invention also relates to an apparatus for the continuous production of infusion bags, in particular for tea, ~~comprising a dosing device for substance quantities and a device for forming a tube, which is divided into single chambers by transverse sealing.~~ Finally the invention relates to an infusion bag.

Please amend the first paragraph on page 2 in marked up form, as follows:

~~It is the object of the~~ The invention ~~to provide~~s a simple method and a constructively simple apparatus for the continuous production of infusion bags, working reliably at a high speed. The infusion bag according to the invention shall have a simple design and a low price.

Please amend the second paragraph on page 2 in marked up form, as follows:

~~The solution of this problem by means of the~~ More specifically, a method according to the invention is characterized in that the chambers are formed by a transverse seam, which simultaneously comprises the rear seam of the one infusion bag and the front seam of the succeeding infusion bag and a perforation interposed between both seams, at which the infusion bags are separated in course of the process. Such a transverse seam can be best produced by ultrasound, since ultrasound simultaneously enables welding and perforating.

IN THE CLAIMS:

A marked-up version of the Claims is as follows:

1. (Marked up/Amended) Method for the continuous production of infusion bags, ~~in particular for tea, the method comprising:~~

~~by depositing a single substance quantities (3) on a filter paper web; (2) and forming a chamber tube as well as;~~

~~forming individual chambers (6), which are closed on all sides and at least contain at least one substance quantity (3), respectively, and which are attached to a carrier material; (12);~~
characterized in

~~that forming the chambers (6) are formed by a transverse seam (9), which simultaneously comprises the a rear seam of the one a first infusion bag and the a front seam (9b) of the a succeeding infusion bag; and~~

~~interposing a perforation (9e) interposed between both seams (9a, 9b); and at which separating the first and the succeeding the infusion bags are separated in course of the process.~~

2. (Marked up/Amended) Method according to claim 1, ~~characterized in that wherein the forming the chambers is further comprising producing the transverse seam (9) is produced by ultrasound.~~

3. (Marked up/Amended) Method according to claim 1 ~~or 2, characterized in that further comprising punching two corners (9d) are punched laterally of a central web during the forming of the chambers production of transverse seam; (9) and forming a V-shape in the front seam (9b) is V-shaped.~~

4. (Marked up/Amended) Method according to ~~one of the claims 1 through 3, characterized in that further comprising isolating the chambers (6) of the chamber tube are isolated by extension at the perforation (9e); and thereafter attaching the chamber to a carrier material web (12).~~

5. (Marked up/Amended) Method according to claim 4, ~~characterized in that the attachment is carried out by wherein the attaching is welding by means of ultrasound.~~

6. (Marked up/Amended) Method according to claim 4 or 5, characterized in ~~that~~further comprising perforating the carrier material web (12) ~~is perforated before the attachment attaching or simultaneously with the attachment attaching.~~

7. (Marked up/Amended) Method according to ~~at least one of the claim 1 through 6, characterized in that~~ further comprising simultancously or successively attaching the isolated chambers (6) ~~of two chamber tubes are simultaneously or successively attached to a carrier material web (12).~~

8. (Marked up/Amended) Method according to ~~at least one of the claims 1 through 7, characterized in that~~ further comprising isolating by extension the chambers (6) ~~to be attached to a carrier material web (12) are isolated by extension.~~

9. (Marked up/Amended) Method according to ~~one of the claims 1 through 8, characterized in that~~ wherein the forming of the chambers includes forming by ultrasound welding the chambers (6) ~~are formed by ultrasound welding of at least two filter paper webs, which are placed in parallel to each other and/or superposed.~~

10. (Marked up/Amended) Apparatus for the continuous production of infusion bags, ~~in particular for tea, the apparatus comprising:~~

a dosing device (1, 1a) for substance quantities; (3) and

a device for forming a tube, which the tube is divided into ~~a single~~ chambers (6) by transverse sealing; and

characterized in

~~that in the~~ a transverse sealing station (5, 5a) having a sonotrode (7) is arranged, which that cooperates with a sealing roller in order to produce a double seam separated by a perforation, the sealing roller (8) comprises ~~ing~~ recesses (8a) ~~for the substance quantities (3) contained in the chambers; (6), in order to produce a double seam (9) separated by a perforation (9e) and~~

~~that another~~ a second station (10, 10a) is provided, in which the chambers (6) are isolated by extension and attached to a carrier material web (12).

11. (Marked up/Amended) Apparatus according to claim 10, ~~characterized in that~~wherein the other~~second station (10, 10a) is also provided with~~includes a sonotrode (14, 16) and a sealing roller (11, 15) ~~for welding the isolated chambers (6) to the carrier material web (12) by ultrasound.~~

12. (Marked up/Amended) Apparatus according to claim 10 or 11, characterized in that in a similar additional further comprising a third station (10a) in which the second chambers (6) of a second chamber tube are welded to the carrier material web (12).

13. (Marked up/Amended) Apparatus according to one of the claims 12 to 12, characterized in that further comprising a separating station (17) is provided for isolating the sections of the carrier material web (12), which are respectively connected to one or two the chambers (6) and the second chambers.

14. (Marked up/Amended) Infusion bag, in particular for tea, comprising formed by at least one chamber (6) containing a substance quantity of the substance quantity to be leached out and being produced by transverse sealing of a tube made of filter material, and a section of a carrier material web (12) connected to the chamber (6), characterized in that wherein the a transverse seams (9) of chamber (6) and/or the carrier material web (12) are welded to the chamber by ultrasound.

15. (Marked up/Amended) Infusion bag according to claim 14, characterized in that wherein the transverse seam is formed by a double seam (9) comprised of comprising a front and rear seam (9a, 9b) having a perforation (9e) placed in between.

IN THE ABSTRACT:

A marked-up version of the Abstract is as follows:

The invention relates to a method for the continuous production of infusion bags, in particular for tea, by depositing single substance quantities (3) on a filter paper web (2) and forming a tube as well as forming individual chambers (6), which are closed on all sides and at least contain one substance quantity (3), respectively, and which are attached to a carrier material (12). According to the invention, the chambers (6) are formed by a transverse seam (9), which simultaneously comprises includes the rear seam (9a) of the one infusion bag and the front seam (9b) of the succeeding infusion bag and a perforation (9e) interposed between both seams (9a and 9b), at which the infusion bags are separated in course of the process.

(Fig. 5)

R/W/ri/li